Effect of Educational Program on Preventing Postpartum Depression among Mothers

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Abstract

Background: Postpartum depression is a mood disorder that begins after childbirth and usually lasts beyond six weeks, in some cases up to a year. **Aim**: The study aimed to evaluate the effect of educational program on preventing postpartum depression among mothers. **Design**: A quasi experimental pre – post test of two groups was used. **Setting**: This study was conducted in Obstetrics and Gynecological outpatient clinic at Benha university hospital. **Sample**: A purposive sample of 100 pregnant mothers. **Tools**: Three tools were used for data collection: 1) A structured interviewing questionnaire include three parts, part I: Include demographic characteristics, part II: Include obstetric history and risk factors of depression during current pregnancy, and part III: Include maternal knowledge questionnaire**)**, 2) Maternal beliefs questionnaire and 3) Edinburgh postpartum depression scale. **Results**: Total maternal knowledge and beliefs regarding postpartum depression were greatly improved after educational program implementation of the study group than the control group. There was no statistically significant difference between the study and control group pre-program implementation, while there was a highly statistically significant difference between the study and control group post program implementation (after 6 weeks of delivery) regarding preventing of postpartum depression measuring by Edinburgh scale. **Conclusion**: There was a significant difference in preventing postpartum depression among mothers who received educational program regarding postnatal depression than those who don't. The total maternal knowledge and beliefs regarding postpartum depression were greatly improved after educational program implementation of the study group than the control group. **Recommendation:** Posters and educational materials about prevention of postpartum depression during pregnancy should be located in well-visible areas in outpatients and private clinics.

Keywords: Educational Program, and Postpartum depression.

Introduction

Pregnancy and childbirth are very special times in a woman's life. A lot of changes occur during the postpartum period that most mothers are not aware of, such as hormonal changes, physical changes, social changes, biological changes, and emotional changes. Therefore, biological changes during pregnancy and childbirth along with sociocultural factors may precipitate the development of Postpartum Depression (PPD) **(Adelere, et al .,2021).**

The postpartum disorder can be classified into three categories: postpartum blues, which is a commonly experienced, transient mood disturbance consisting of crying, irritability, fatigue, and anxiety usually resolving within the 10 days following delivery. PPD is

clinical depression that occurs following childbirth, it is treatable and very common, while it can be very serious. Postpartum psychosis symptoms may change rapidly, with periods of elevated mood being quickly followed by profound sadness **(Slomian, et al., 2019).**

The Diagnostic and Statistical Manual of Mental Disorders (DSM) define perinatal depression (onset during pregnancy or within 4 weeks after delivery) but expands the timeframe for postpartum onset up to one year. symptoms include loss of interest and energy, depressed mood, fluctuations in sleep or eating patterns, reduced ability to think or concentrate, feelings of worthlessness, and recurrent suicidal ideation. The symptoms of depressed mood or loss of interest are required and must be present for a minimum of 2 weeks to assign a diagnosis of major depressive disorder **(Connor, et al., 2019)**.

The risk factors for postpartum depression include genetic disorder, previous occurrence of depression during pregnancy (women who have had depression during pregnancy are five times more likely to develop PPD, previous history of depression not related to pregnancy, anxiety during pregnancy, prolonged baby blues, unemployment, mother's difficult financial situation, and a history of mental. Aspects of social support and relationship with a partner, recent stressful life events, preterm birth or low infant weight are also meaningful **(Li, et al., 2020).**

Postpartum depression has a lot of negative effects, not only on mothers but also on families. Mothers aren't able to take care of the child and the mother-child relationship is not satisfied. When mothers suffer from serious PPD, the children will suffer adverse impacts such as reduced physical growth, problem behavior & child abuse. Postpartum depression can also influence the psychological condition of the husband at the same time, which can influence their relationship **(April& Jennifer, 2018).**

The Edinburgh Postnatal Depression Scale (EPDS) was used to assess maternal depression. The EPDS is the most commonly used instrument to assess PPD, it is written at a fourth-grade reading level, can be completed in 5–7 min with ten items ranging from zero (no symptom) to three (severe symptoms), with a final score from 0 to 30 points. The EPDS has been used and validated in various ethnic and socioeconomic groups. We used the previously validated EPDS Arabic version **(Arach, et al., 2020).**

Nurses play an important role in the early identification and prompt treatment of postpartum depression. The nurses should have good psychological quality when found mother appear bad mood or emergency situation such as optimistic, cheerful, stable mood and they can provide professional and sincere service. They are not only carvers but also supporters. Nurses need to ask all mothers if they have insomnia, decreases in appetite, or depression. The nurse should educate the mothers about eat a healthy, balanced diet, get adequate rest and sleep, reduce stress and speak up during postpartum and available services if symptoms develop and about the serious consequences of untreated illness **(Mokhtari, et al, 2018).**

Significance of the study

The prevalence of postpartum depression worldwide varies from 0.5 to 60.8% in the first months of postpartum. The prevalence of postpartum depression varies from 5.2% to 74% in developed countries and from 1.9% to 82.1% in developing countries may contribute to infant risk of growth impairment and illness through reduced attention to and care of children's needs **(Shorey, et al., 2018).**

In Egypt, studies have reported a prevalence of PPD in Cairo 27.5%, in Gharbia Governorate 20%, in Sohag that PPD was 7.32% overall, In the El-Minia study 20% had major PPD & 29.5% had minor PPD, in Mansoura it was 17.9%, in the Assiut study, the prevalence 51.7% (**AbdElaziz & Abdel Halim, 2021).**

Aim of the study:

To evaluate the effect of educational program on preventing postpartum depression among mothers.

Study hypothesis:

There will be significant difference in preventing postpartum depression among mothers who will receive educational program regarding postnatal depression than those who don't.

Subjects and method

Study design:

A quasi–Experimental (pre-post) design was utilized to fulfill the aim of the study.

Study Setting:

The study was conducted in the outpatient clinic of Obstetrics &Gynecology department at Benha University Hospital**.**

Sample type: A Purposive sample of 100 pregnant mothers.

Sample size:

All mothers who was attended the obstetric and gynecological clinics at Benha University Hospital for a period one year and met the inclusion criteria

Sample technique:

The sample was divided randomly into two groups 50 women for study and 50 for control. The control group was recruited first, representing the "usual care" group and the study group was recruited next, mothers received the educational program.

Inclusion criteria

The woman must be pregnant after 34 gestational weeks, aged from 18-45 years old, able to write and read, at high risk for depression such as adolescence, history of postpartum depression, antenatal depression, unwanted pregnancy, emergency cesarean section low level of social support, major life events or stressors during pregnancy, low socioeconomic status, history of depression in previous pregnancies, previous miscarriage, hospitalizations during pregnancy, domestic violence, lack of emotional and financial support and free from obstetrical complication as (bleeding, gestational diabetes and pregnancy-induced hypertension) or chronic disease affect pregnancy such as (heart disease, asthma or epilepsy).

Tools of data collection:

Three main tools used for data collection.

First tool: A Structured interviewing questionnaire.

It was designed by researchers in Arabic language after reviewing related literature. The questionnaire was divided into three parts;

Part I): Included data related to demographic characteristics of the women such as (age, educational level, residence**,** occupational status, marital status and social support).

Part II): Included data related to obstetric history & risk factors of depression during current pregnancy of the women such as; (age at marriage, gravidity and gestational age.

Part III): Maternal knowledge questionnaire about PPD**.** It was adapted from **(Highet, et al.,2018)** and was modified by researcher which contain definition, causes, signs, and symptoms, predispose factors, screening, prevention, treatment of PPD. This part was used before and after implementation of educational program (pre/posttest format).

The women were properly informed and guided on how to fill out the questionnaire which was received immediately after filling.

Scoring system:

Maternal knowledge was calculated for each item as the following: Each item was assigned a score (2) for completely correct answer, a score (1) was given when the answer was incompletely correct and a score (0) was given when the answer was unknown or incorrect. The knowledge score was calculated by adding the scores for the correct answers. The higher scores reflect higher levels of knowledge about PPD.

Second tool: Maternal Beliefs Questionnaire (MBQ) about PPD.

It was adapted from **(Kang, et al., 2019& Juntaruksa, et al., 2017)** and was modified by the researcher which had three answer options showing one for agree, one for unsure and the third for disagree. This part is used before and after implementation of educational program (pre/posttest format). The questionnaire contains 20 items regarding PPD.

Scoring system:

Maternal beliefs were calculated for each item as the following. Agree beliefs was score "3", unsure beliefs was score "2" and the disagree beliefs was score "1". The beliefs score was calculated by adding the scores for the agreed beliefs. The higher scores reflect higher levels of correct beliefs about PPD.

Third tool: Edinburgh Postpartum Depression Scale (EPDS) : It was adopted by **(Ghubash, et al., 1997)** the first authors translated the EPDS into the Arabic language. It is the most commonly used instrument to assess PPD. It was written at a fourth-grade reading level, can be completed in 5–7 min with ten items ranging from zero(no symptom) to three (severe symptoms), was used to identify women with PPD which contains 10 items on the person's feelings over the past 7 days, with a maximum score of 30 and minimum of zero. Women who is considered test positive' for postnatal depression if she scoring above 12 were considered depressed, and those scoring 12 and below are non-depressed.

Scoring system:

Scoring system of EPDS: The first, second, fourth items as 0, 1, 2 and 3, The third, fifth, sixth, seventh, eighth, ninth, and tenth items are scored inversely as 3,2,1 and 0. The cut-off point of the scale is 12, above 12 were considered depressed, and those scoring 12 and below non-depressed.

Tool's validity:

The content validity of the tool was ensured by reviewing the tool by five experts in the field of Obstetrics and Gynecological Nursing, Obstetrics and Gynecological Medicine, and Nursing Education.

Tool's Reliability:

Reliability was done by Cronbach's Alpha, the internal consisted of knowledge was equal 0.715, maternal beliefs question was 0.721 and Edinburgh postpartum depression scale was 0.617.

Ethical comments of research:

- Official permission from the selected study settings was obtained for the fulfillment of the study.
- The aim of the study was explained to all mothers before applying the tools to gain confidence and cooperation.
- Oral consent was obtained from women to participate in the study and confidentiality was assured.
- The study didn't have any physical, social or psychological risks for mothers.

- Freedom to withdraw at any time of data collection and with no obligation.

Pilot Study:

The pilot study was conducted on 10 % of the period collecting the sample (5 weeks) to test the content validity, clarity and applicability of tools as well as the time needed for data collection. No modifications were done, thus women involved in the pilot study were included in the study sample.

Fieldwork:

The study was carried out from the beginning of September, 2020 and completed at the end of September, 2021 covering one year. The researcher visited the previously mentioned setting three days/weekly (Monday, Tuesday, and Wednesday) from 9.00 Am to 12.00 Pm according to the schedule of obstetrics and gynecological outpatient clinic to fulfill the aim of this study.

A. Preparatory phase: The preparatory phase was the first phase of the study and it included, reviewing local and international related literature about the various aspects of the research problem. This helped the researcher to be acquainted with magnitude and seriousness of the problem, and guided the researcher to prepare the required data collection tools.

B. Assessment phase: This phase encompassed interviewing pregnant woman. At the beginning of interview the researcher greeted the woman, introduced herself to each woman included in the research, explained the purpose of the study and provided the woman with all information about the study (purpose, duration, and activities) and take oral consent to participate in the study. Data were collected by the researcher through administration of the tools. The researcher distributed, structured interviewing questionnaire. The average time require for completion of this questionnaire was around (5-10 minutes). Then the researcher distributed, maternal beliefs questionnaire to collect beliefs about PPD. The average time require for completion of this questionnaire was around (5-10 minutes). Then the researcher distributed, Edinburgh postpartum depression scale to assess depression during pregnancy. The average time require for completion of this questionnaire was around (5-10 minutes). Average total time for the completion of each woman interview was around (15-30 minutes).

The interviewing process was done three days per week starting from 9 am to 12 pm, each woman was interviewed individually. The number of interviewed per week was two or three women.

C. Planning phase: Based on results obtained from pregnant woman during assessment phase, the educational guideline was developed by the researcher in a form of printed Arabic booklet to satisfy the pregnant mother's deficit knowledge and incorrect beliefs regarding PPD during pregnancy (study group). Sessions number and their contents, different methods of teaching, and educational media were determined accordingly to pregnant mothers. Objectives of educational guidelines were constructed and included the following:

General Objective

By the end of the educational program sessions, each woman in the study group will be able to acquire essential knowledge and health beliefs regarding PPD and will be satisfied with the educational program regarding PPD.

Specific Objectives

By the end of the educational program sessions, each woman in the study will be able to:

-Define postpartum depression & onset.

-Discuss causes of postpartum depression.
-Explain signs &symptoms of postpartum depression.
- Identify risk factors for PPD.
- Identify adverse effects of PPD on mother & infant.
- Discuss prevention methods of PPD.

D. Implementation phase: It consists of the following

1) Study group:

Pregnant women received routine care from hospital staff, in addition to participate in the educational program through three scheduled sessions. Each session took about 20-30 minutes. At the beginning of the first session, women were oriented with the educational program contents. Each woman was informed about the time of the next session at the end of the session. The subsequent session started with feedback about the previous session and the objectives of the new session, simple Arabic language was used to suit women's level of understanding. At the end of each session, women's questions were discussed to correct any misunderstanding.

The First session of the educational program implementation began during the women's first visit follow the interviewing phase and included, physiological & psychological changes during postpartum, define PPD and onset.

The Second session of the educational program implementation began during the women's second visit that included causes of PPD and signs and symptoms of postpartum depression and predisposing factors of PPD.

The Third session of the educational program implementation began during the women's third visit that included adverse effects of PPD on mother and infant and prevention methods that help to prevent PPD. These sessions were repeated to each subgroup of (1-2) women. Different methods of teaching were used such as discussion, lecture, roleplaying and brainstorming. educational guideline about PPD which was constructed by the researcher in a simple Arabic language after reviewing the related literature were distributed to the study group to achieve its objectives.

2) Control group:

- The researcher interviewed women in the control group to collect pre – test information and for follow up pregnancy.

E- Evaluation phase: During this phase, the two groups will be evaluated to assess the effectiveness of the educational guideline by using tool of maternal knowledge and beliefs questionnaire regarding postpartum depression immediately after implementation of the program and Edinburgh Postpartum Depression Scale (EPDS), after 6 weeks of delivery as considers (As posttest).

Finally, the researcher compared pretest and posttest results of the two groups to evaluate the effect of educational program.

Statistical analysis:

Data was verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 22.0) was used for that purpose, followed by data tabulation and analysis. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). Test of significance (t-test, chi-square). as well as person correlation coefficient was used to investigate relation between study variables. A significant level value was considered when $p \leq 0.05$. In addition, A highly significant level value was considered when $p \leq 0.001$.

Limitation of the study: -Frequency of mothers to out-patient clinical little due to pandemic COVID 19.

Results:

Table (1): Shows that there was no statistically significant difference between study and control group regarding demographic characteristics.

Figure (1): Shows that there was no statistically significant difference between study and control group regarding maternal knowledge of PPD pre-program implementation, while there was highly statistically significant difference between study and control group regarding knowledge of PPD post-program.

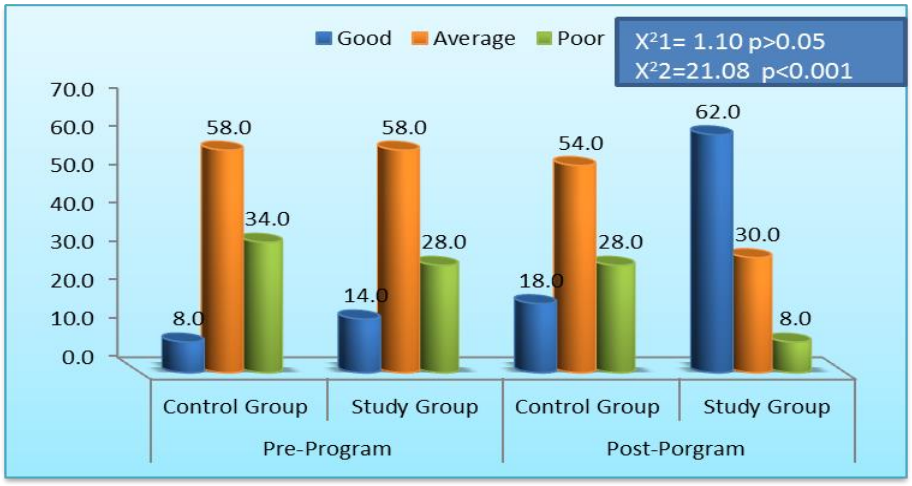
Figure (2): Shows that there was no statistically significant difference between study and control group regarding maternal beliefs about PPD pre-program implementation, while there was highly statistically significant difference between study and control group regarding maternal beliefs about PPD post-program implementation.

Figure (3): Shows that 70% of the study group has depressed, and 74% of the control group has depressed pre-program implementation. While 16% of the study group have depressed, and 72% of the control group have depressed post-program implementation.

Table (2): Shows that there was no statistically significant correlation between total knowledge and total beliefs of studied women both (study &control group) pre-program implementation, while positive highly statistically significant correlation between total knowledge and total beliefs of study group post program implementation, while no statistically significant correlation between total knowledge and total beliefs of control group post program implementation. Additionally statistically significant correlation between total knowledge and total Edinburg postpartum depression scale of studied women (study &control group) pre& post program implementation**.**

Table (1): Distribution of studied women (study and control groups) regarding demographic characteristics

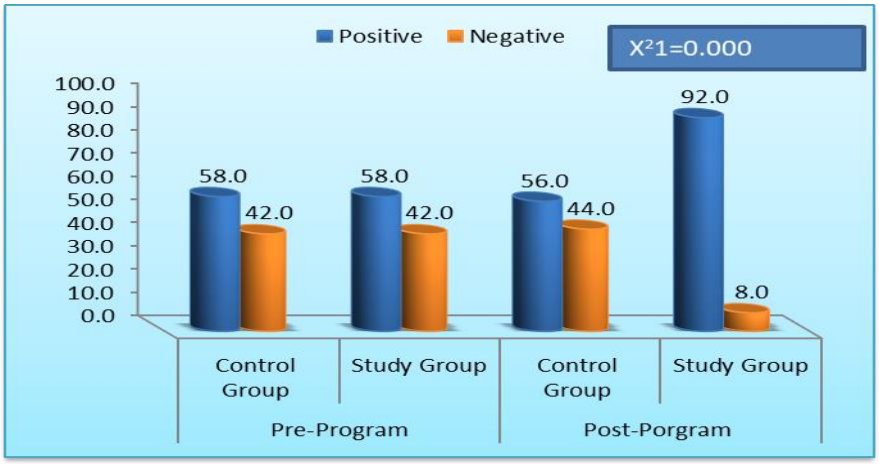
Demographic characteristics	Study group (n=50)		Control group (n=50)		X^2	p-value
	No	%	No	%		
Age in years						
18≥25	8	16.0	8	16.0	0.194	.907
26>35	23	46.0	25	50;0		
36-45	19	38.0	17	34.0		
Mean ±SD	34.52±5.02		34.21±4.14			
Education level						
Read and write	3	6.0	2	4.0	0.604	896
Preparatory	8	16.0	6	12.0		
Secondary	21	42.0	23	46.0		
University	18	36.0	19	38.0		
Residence						
Urban	5	10.0	9	18.0	1.329	.249
Rural	45	90.0	41	82.0		
Occupation						
House wife	34	68.0	31	62.0	0.396	.529
Employee	16	32.0	19	38.0		
Marital status						
Married	48	96.0	45	90.0	1.382	.240
Divorced	2	4.0	5	10.0		
Social support						
Enough	7	14.0	7	14.0	0.764	.682
To some extent	16	32.0	20	40.0		
Not enough	27	54.0	23	46.0		



X^2 (1) between study & control pre program

X^2 (2) between study & control post program

Figure (1): Distribution of studied women (study and control groups) regarding total .maternal knowledge about postpartum depression



X^2 (1) between study & control pre program

X^2 (2) between study & control post program

Figure (2): Distribution of studied women (study and control groups) regarding total maternal beliefs about postpartum depression.

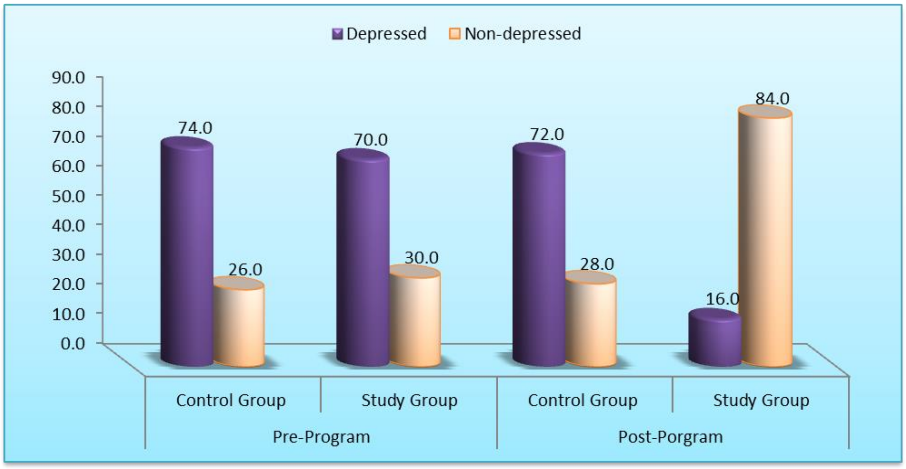


Figure (3): Percentage distribution of the studied women (study & control groups) regarding preventing postpartum depression pre & post program.

Table (2): Correlation between total knowledge, total beliefs and total Edinburgh postpartum depression scale of studied women (study & control group) pre & post program.

Variable	Total knowledge							
	Pre program				Post program			
	Study group		Control group		Study group		Control group	
	R	p-value	R	p-value	R	p-value	R	p-value
Total beliefs	0.605	0.08	0.622	0.07	0.859	0.000**	0.588	0.06
Total Edinburgh postpartum depression Scale	-0.831	0.007*	-0.714	0.002*	-0.574	0.004*	-0.654	0.004*

Discussion

Postpartum women can experience varied emotions ranging from joy and pleasure to sadness and crying bouts. These feelings are called "baby blues," and they tend to decrease over the first 2 weeks after delivery. Postpartum depression (PPD) is a mood disorder that begins after childbirth and usually lasts beyond six weeks or one year **(Ardiani, et al ., 2020).** It is characterized by low mood, loss of enjoyment, reduced energy, marked functional impairment, reduced self-esteem, ideas or acts of self-harm or suicide **(Chrzan – Detkos, et al., 2021).**

Demographic characteristics can play a major role in determining PPD among studied pregnant women. There was no statistically significant difference between study & control group regarding demographic characteristics. This finding agrees with (**Ahmad, et al ., 2021)** who conducted study on prevalence and risk factors of postpartum depression in the Middle East and found no statistically significant difference between study and control group regarding demographic characteristic.

Regarding the age of studied pregnant women, the result of the current study revealed that nearly half of studied pregnant women's age (study & control groups) ranged between 26>35 of study and control group. This may be due to this age is a common age of reproduction. This finding agree with (**Akbarzade et al .,2017)** who conducted study on comparison of the effects of attachment and relaxation instruction on the third trimester depression and found that 73.4% of studied pregnant women aged from 26-30 years.

On the other hand, those findings of the present study disagrees with, (**Sangsawang et al**.,**2019**) who conducted study on interventions for the prevention of postpartum depression in adolescent mothers: a systematic review reported that all the studied pregnant women aged from 18-25 years.

Regarding education level, the findings of the present study revealed that nearly half of studied pregnant women (study & control groups) in secondary education and this explains their cooperation, understanding and compliance with educational program. This finding is in agreement with **(Kerie et al .,2018**) who conducted study on prevalence and associated factors of postpartum depression in Southwest, Ethiopia reported that the educational status, (38.2%) of respondents were have secondary level educated. Moreover, this finding of the present study disagrees with (**Branquinho et al.,2019)** who conducted study on knowledge and attitudes about postpartum depression in the Portuguese and found that 24,3% of pregnant woman secondary education and 73.7 % of them had higher education .

Regarding residence, the findings of the present study revealed that majority of studied pregnant women (study & control groups) were rural. This result may be attributed to the outpatient clinic at Benha University as it is accessible and visible for a large portion of the population, especially those who live in rural areas with low and middle socio economic status; also this service is offer with minimal charge. This finding agree with (**Shrestha et al.,2019)** who conducted study on incidence and prevalence of postpartum depression in a rural community in India and found all of women's (200) were living in rural. However, this finding of the present study disagree with (**Branquinho et al.,2019**) who found that more than half 448 (72.1%) of them were resident in urban areas whiles the remaining 173 (27.9%) were resident in rural areas.

Regarding occupation , the findings of the present study revealed that three quarter of studied pregnant women (study & control

groups) were housewife. This may be due to the natural area residence where majority of them live in rural area, this finding is in accordance by (**Al-Ghamdi et al., 2019)** who studies on prevalence and factors of postpartum depression among mothers at King Abdulaziz University Hospital and found that 74.7% of them were housewife. However, this finding of the present study disagree with **(Azad et al.,2019)** who conducted study on prevalence and risk factors of postpartum depression within one year after birth in urban slums of Dhaka, Bangladesh and found that 37.5 % of woman had housewife and 62.5 % of them were employee.

Regarding marital status, the findings of the present study revealed that the most of studied pregnant women (study& control groups) were married, this finding of the present study agree with (**Monteiro et al.,2019)** who conducted study on what protects at-risk postpartum women from developing depressive and anxiety symptoms? and found that the majority of the study participants (87.7 %) were currently married. On the other hand, this finding of the present study disagree with (**Zlotnick et al .,2016)** who conducted study on randomized controlled trial to prevent postpartum depression in mothers on public assistance and found that the majority of participants were single and minority of them were married.

Regarding social support, the findings of the present study revealed that nearly half of studied pregnant women (study & control groups) were not enough social support, was no statistically significant difference between study & control group regarding social support, this is may be due to husband &family don't know the important of social support on prevent PPD or daily life busy, if mothers who have support from others or partner, were not usually considered as high-risk mothers for PPD. This finding of the present study agree with (**Faisal-Cury et al., 2021)** who conducted study on partner relationship quality predicts later postpartum depression independently of the chronicity of depressive symptoms and found non - significant differences in depressive symptoms between both groups regarding social support at 6 weeks after delivery.

Regarding maternal knowledge about postpartum depression (PPD) the findings of the present study revealed that there was no statistically significant difference between study & control group regarding knowledge of (PPD) pre-program intrtvention, while there was highly statistically significant difference between study & control group regarding knowledge of (PPD) post program intervention. This improvement in knowledge might be due to pregnant women's active participation and good communication with the researcher who helped them to acquire knowledge. Besides, educational program plays a very important role in helping pregnant women to acquire knowledge regarding postpartum depression.

This finding of the present study agree with **(Jaya-Salengia et al.,2019)** who found the data analysis showed a significant improvement in PPD knowledge from 56% before the project to 92.7% after the project intervention. On the other hand this finding of the present study disagree with (**Hensley.,2020)** who conducted study on prenatal education to improve reporting of postpartum depression and found that there was no statistically significance between the groups. This suggests the intervention group did not have an effect, this is may be related to the small sample size and severe

coronavirus pandemic in the time conduct study.

Regarding maternal beliefs about postpartum depression (PPD) the findings of the present study revealed that there was no statistically significant difference between study & control group regarding beliefs of (PPD) pre-program implementation, while there was highly statistical significant difference between study & control group regarding beliefs of (PPD) post program implementation. This result may be due to lack of knowledge & false belief about PPD during pregnancy(pre-program), so giving educational program on PPD (knowledge & beliefs) provided for postpartum women throughout pregnancy & helping pregnant women to correct false (negative) beliefs regarding PPD. This result may be due to the positive effect of the educational program implementation& the learning sessions (post program).

This finding of the present study agree with (**Beydokhti et al.,2021)** who conducted study on effect of educational- counseling program based on precede-proceed model during pregnancy on postpartum depression and found the pre-test results showed that a lack of beliefs about PPD, which was no statistically significant difference between case & control group regarding beliefs of PPD(pre-test), while after intervention knowledge & beliefs in the case group were enhanced after the implementation of the educational- counseling program, there was highly statistical significant difference between both groups.

On the other hand, this finding of the present study disagree with (**Thompson & Bendell 2018)** who conducted study on depressive cognitions, maternal attitudes & postnatal depression and found no significant changes were observed between the first and second administrations of the maternal attitudes questionnaire during test construction pilot testing.

Regarding percentage distribution of studied women (study & control groups) regarding preventing postpartum depression measuring by Edinburg postpartum depression scale pre & post program, the findings of the present study illustrated 70% of the study group have depressed, 74% of the control group have depressed pre-program implementation, while 16% of the study group have depressed, 72% of the control group have depressed post-program implementation. This finding of the present study agree with (**Moshki et al.,2016)** who found a significant difference in depression reduction was observed between the two groups one month after intervention, indicating the effectiveness of the intervention program. On the other hand this finding of the present study disagree with **(Hensley.,2020)** who found no statistical significance between groups in reporting of symptoms at pre/post style survey.

Regarding correlation between total knowledge, total beliefs and total Edinburgh postpartum depression scale EPDS among studied pregnant women, the findings of the present study illustrated that there was no statistically significant correlation between total knowledge and total beliefs among studied women (study &control group) pre-program implementation, while highly statistical significant correlation between total knowledge & total beliefs among study group post program implementation. While statistically significant correlation between total knowledge and total Edinburgh postpartum depression scale EPDS among studied women (study &control group) pre& post program implementation. This result may be due to good level of knowledge have a positive effect on the level of beliefs and

total Edinburgh postpartum depression scale EPDS .

This finding of the present study agree with (**Moshki et al.,2016)** who conducted study on the effect of educational intervention on prevention of postpartum depression, and found there was a significant correlation between total knowledge & total belief after intervention also EPDS score was positively correlated with total knowledge post- test ($p \leq 0.0001$). This is maybe due to higher levels of knowledge about PPD being associated with more positive beliefs about PPD.

On the other hand this finding of the present study disagree with (**Abazie et al.,2021)** who found that there was no statistically correlation between total knowledge and total beliefs before, immediately after, and at follow-up phases of implementation.

Conclusion

Study hypothesis was supported and there was significant difference in preventing postpartum depression among mothers who were received educational program regarding postnatal depression than those who don't. The total maternal knowledge and beliefs regarding PPD were greatly improved after educational program implementation of study group than control group. Also, there was a highly statistically significant difference between study & control group regarding knowledge and beliefs about PPD post program implementation. Also there was highly statistical significant difference between study & control group regarding preventing postpartum depression among mothers, this is measured by Edinburg postpartum depression scale post program implementation (after 6 weeks of delivery).

Recommendations

-Posters and educational materials about prevention of PPD during pregnancy should be located in well-visible areas in outpatients' and private clinics.

-Continuous health education programs to improve pregnant women's knowledge of PPD during pregnancy.

- Health education should be presented in health centers and units to pregnant women that providing them with knowledge about PPD, risk factors and methods of prevention.

Recommendations for Further researches:

- Continuing health education programs for nurses and midwives are recommended to improve knowledge, skills, and awareness of their roles in assessing and managing PPD.

- Replication of the study on a large representative probability sample is highly recommended in different maternity hospitals to achieve more generalization of the results.

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تأثير البرنامج التعليمي على الوقاية من اكتئاب ما بعد الولادة بين الأمهات

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الولادة هي حدث معقد في الحياة يمكن أن يرتبط بكل من الاستجابات النفسية الإيجابية والسلبية عندما تكون الولادة مؤلمة بشكل خاص ، ويكون لذلك تأثير سلبي على المرأة بعد الولادة. لذلك هدفت هذه الدراسة الى تقييم تأثير البرنامج التعليمي على الوقاية من اكتئاب ما بعد الولادة بين الامهات. وقد أجريت الدراسة في عياده النساء والتوليد على 100 سيده حامل وقسموا على مجموعتين لتحقيق هدف الدراسة مجموعه الدراسة ومجموعه التحكم وشملت ثلاث ادوات لجمع البيانات أولا استبيان لإجراء المقابلة وتشمل على ثلاث اجزاء البيانات الديموغرافية للمرأة و تاريخ الولادة وعوامل الخطورة للاكتئاب أثناء الحمل الحالي واستبيان لقياس معلومات الأمهات فيما يتعلق باكتئاب ما بعد الولادة وثانيا استبيان معتقدات الأمهات أيضا و ثالثا استبيان أدينبرج لتقيم اكتئاب ما بعد الولادة, حيث كشفت النتائج ان هناك فروق ذات دلالة إحصائية عالية بين مجموعات التحكم والدراسة. وتم دعم فرضية الدراسة وكان هناك فرق كبير في الوقاية من اكتئاب ما بعد الولادة بين الأمهات اللائي يتلقين برنامجًا تعليميًا بشأن اكتئاب ما بعد الولادة مقارنة بأولئك اللواتي لا يتلقين ، كما أوصت الدراسة أن يجب تقديم برامج تثقيف صحي مستمرة لتحسين معرفة النساء الحوامل باكتئاب ما بعد الولادة أثناء الحمل.